

REMARKS

Amendments

Claim 1 is amended to correct a typographical error in Formula IV. See, e.g., page 19. Claim 1 is also amended to recite that Y is F, Cl, or a monohalogenated or polyhalogenated alkyl, alkenyl, alkenyloxy or alkoxy radical having 1 to 5 carbon atoms. See, e.g., page 6, lines 33-34, page 17, lines 18-29, and the Examples.

Claim 14 is amended to delete "preferably," and claim 41 is amended to delete OCHCH₂CH₃ from the definition of Y.

Each of these amendments address issues which were raised for the first time in the Office Action of April 14, 2004, and thus could not have been presented earlier. As these amendments place the application in condition for allowance, or, at the very least, in better condition for appeal, entry of the amendments is respectfully requested.

Rejection under 35 USC §112, second paragraph

As noted above, claim 1 is amended to correct a typographical error in Formula IV, claim 14 is amended to delete "preferably," and claim 41 is amended to delete OCHCH₂CH₃ from the definition of Y. Withdrawal of the rejection is respectfully requested.

Rejection Under 35 USC §102 in view of Kato et al. (WO '855 or US '027)

Claims 1-5, 11, 12, and 14-21 are rejected as allegedly being anticipated by Kato et al. (WO '855 or US '027). This rejection is respectfully traversed.

In the rejection, reference is made to Use Example 26 of Kato et al. and the compound 3-HB(F)EB-C contained therein. See the formula code description in Table 1. This cyano compound does not anticipate Applicants' formula I. See Applicants' claim 1. Moreover, none of the other Use Examples contain a compound which exhibits a B(F)EB or B(F,F)EB structure. Furthermore, none of bisalkenyl Compounds Nos. 1-127 disclosed by Kato et al. exhibits such structures. See columns 55-80 of US '027.

In view of the above remarks, it is respectfully submitted that Kato et al. fails to anticipate Applicants' claimed mixtures. Moreover, Kato et al. fails to suggest modifying the mixtures thereof in such a manner as to arrive at an embodiment in accordance with Applicants' claimed invention. Withdrawal of the rejection under 35 USC §102 is

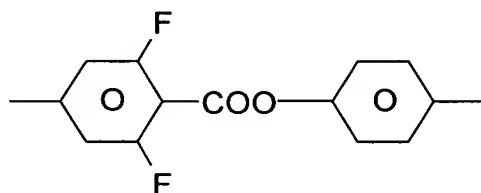
respectfully requested.

Rejection Under 35 USC §103 in view of Kondo et al. (EP 0 738 709) and Bartmann et al. (US 5,679,285)

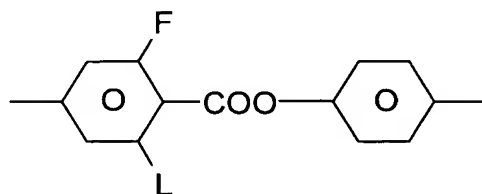
Claims 1-5 and 8-41 are rejected as allegedly being obvious in view of Kondo et al. (EP '709) in combination with Bartmann et al. (US '285). This rejection is respectfully traversed.

EP '709 discloses ester derivative liquid crystal compounds (see formula 1 of EP '709). EP '709 further discloses liquid crystal compositions containing these ester derivatives in combination with other compounds, i.e., compounds of formulas 2-9. See page 4 of '709.

In the rejection, reference is made to compounds 340 and 352 at page 101 of EP '709 and compound 389 at page 103 of the EP '709. See also compounds 276 and 377 at pages 96 and 103. Each of these compounds possesses a substructure of the following formula:



However, none of the Composition Examples of EP '709 contain any of these compounds. Furthermore, none of the compounds contained in the Composition Examples of US '709 possess a substructure of the formula:



wherein L is H or F.

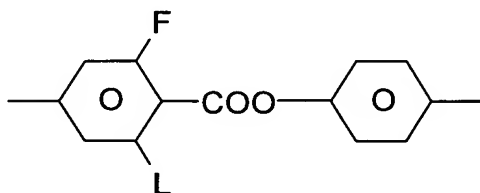
The possible number of liquid crystalline composition embodiments encompassed by the disclosure of '709 is seemingly infinite. For example, the broad genus of formula I encompasses many subgeneric groups. See, e.g., subformulas 1-1 to 1-24 of pages 11-12 of

EP '709. As for the additional compounds that can be present in the liquid crystal composition, see the long list of subformulas at pages 20-34 of the specification. Within this vast grouping of compositional species, there is no suggestion or motivation provided by the disclosure of EP '709 which would lead one of ordinary skill in the art to select, from all of these many possibilities, a composition in accordance with Applicants' claimed invention.

In the rejection, specific reference is made to certain subformulas of formula 1 presented at pages 11-12, i.e., subformulas 1-2, 1-10, 1-11, 1-17, 1-19, and 1-24. Comparing these subformulas and the 40 compositional examples, one finds that only compounds of subformulas 1-2, 1-10, and 1-17 are found in the composition examples. See composition examples 20, 22, 26, 27, 32, and 38. Yet, as noted above, these compounds are not of Applicants' formula I as recited in claim 1.

In the rejection, with respect to EP '709 it is asserted that the "reference differs from the claim in that the claim has more specific halogenated alkyl, alkenyl, alkenyloxy and alkoxy." It is unclear what is intended by this assertion and whether this assertion relates to formula I or one of formulas II-IX of Applicants' claim 1.

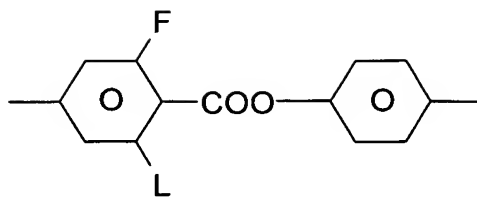
In any event, as noted above, EP '709 provides no suggestion of modifying the composition examples described therein so as to arrive at a mixture containing a compound having a structure of the formula



in accordance with Applicants' claimed invention.

The rejection argues that US '285 describes compounds having polar terminal groups CN, F, Cl, and fluorinated alkyl, alkenyl, and alkoxy and further that it would be obvious to modify the compounds of EP '709 so as to replace terminal groups F and CN with allegedly "functionally equivalent" polar groups, i.e., fluorinated alkyl, alkenyl, and alkoxy. Applicants disagree.

Firstly, even if the compounds of the Compositional Examples were modified in the manner described, the resultant mixture would still not suggest Applicants' claimed invention. Regardless of the terminal groups, none of the Compositional Examples contains a compound having a structure of the formula



Moreover, US '285 discloses vinylene ($-\text{CH}=\text{CH}-$) compounds having an alkenyl wing group R. These compounds do not provide any suggestion for modifying the ester derivatives of formula I of EP '709 wherein the bridge groups Z^1-Z^3 are each $-\text{COO}-$, $-\text{C}_2\text{H}_2-$ or a single bond, with at least one being $-\text{COO}-$. Nor does US '285 disclose that F and CN are universally functional equivalents of fluorinated alkyl, alkenyl, and alkoxy.

US '285 does not disclose compounds of Applicants' formula I-IX. Nor does it provide any suggestion for modifying the mixtures of EP '709 so as to arrive at an embodiment of Applicants' claimed invention.

In view of the above remarks, it is respectfully submitted that EP '709, taken alone or in combination with US '285, fails to provide sufficient motivation which would lead one of ordinary skill in the art to select from its broad compositional disclosure a liquid crystalline composition in accordance with Applicants' claimed invention. The mere ability to modify a disclosure does not, in and of itself, establish obviousness. Instead, there must be some motivation which would lead one to the embodiment in question. In the instant case, no such motivation exists with regards to the disclosure of EP '709.

Withdrawal of the rejection under 35 U.S.C. § 103 is respectfully requested.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,



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